

SONY

COLOR REAR VIDEO PROJECTOR

KPR-36XBR

(CABLE COMPATIBLE PROJECTION TV)

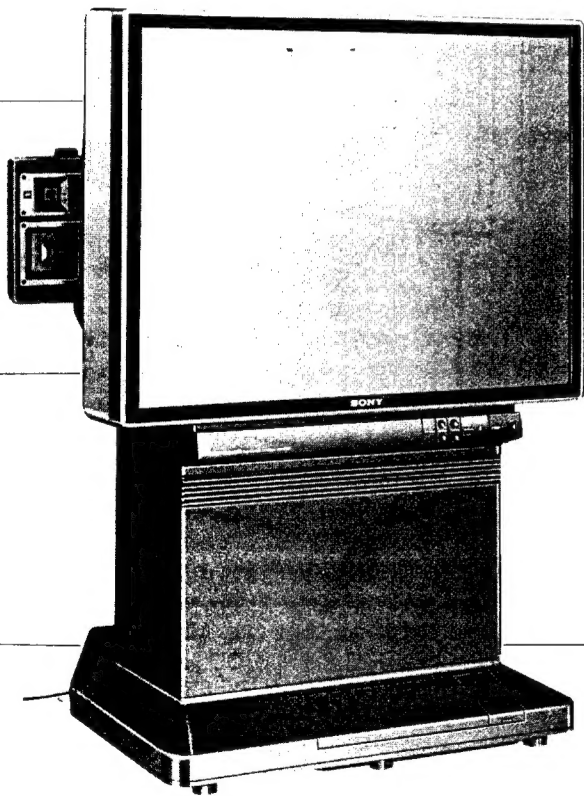
OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

OWNER'S RECORD

The model and serial numbers are located at the rear.
Record the serial number in the space provided below.
Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. KPR-36XBR Serial No. _____



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WARNING

To prevent fire or shock hazard, do not expose the set to rain or moisture.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

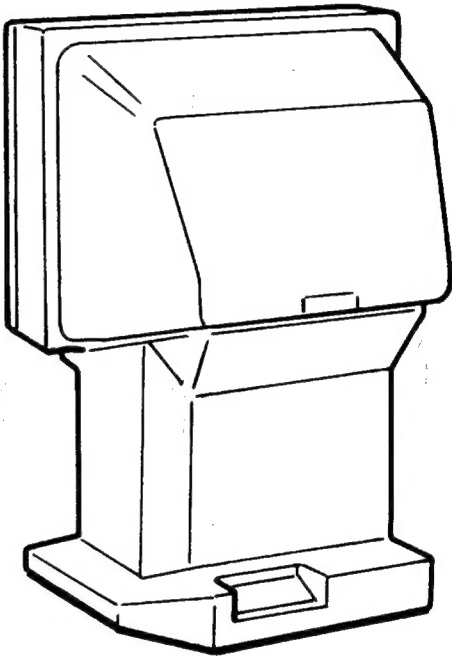
PRECAUTIONS

SAFETY

- Operate the set only on 120 V AC.
- Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified personnel before operating it any further.
- Unplug the set from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

INSTALLATION

- To prevent internal heat build-up, do not block the ventilation openings.
- Do not install the set in a hot or humid place or in a place subject to direct sunlight, excessive dust or mechanical vibration.
- Avoid operating the projection TV at temperatures below 5°C (41°F).
- After the set has been transported from a cold location directly to a warm location, or if the room temperature has changed suddenly, pictures may be blurred or show poor color over portions of the picture. This is because moisture has condensed on the mirrors or lenses inside the projector. Wait until the moisture evaporates.
- Avoid placing the set on a slanting or uneven floor.
- When carrying the set, hold the positions indicated with the arrows by two persons.

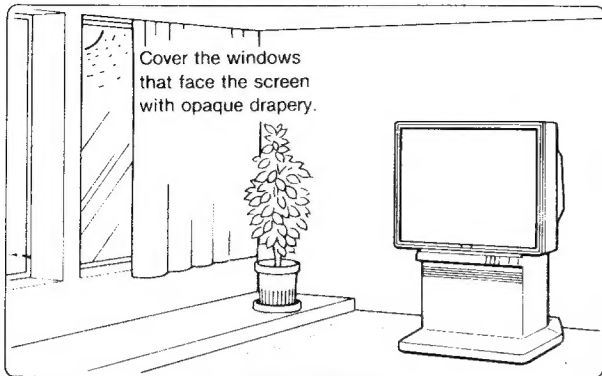


CAUTION
TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ILLUMINATION

- To obtain a clear picture, the screen should not be exposed to illumination or sunlight directly from the front.

Spot lighting whose light comes down from the ceiling is recommended.



It is desirable to install the projector in a room whose floors and walls are not of light-reflecting material. If these are of reflecting material, it would be desirable to change to a dark carpet or wall paper.

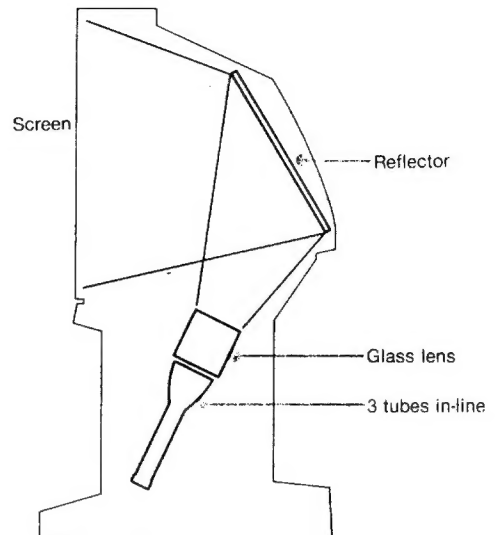
MAINTENANCE

- Save the original shipping carton and packing material; they will come in handy if you ever have to ship your set. For maximum protection, repack your set as it was originally packed at the factory.
- To keep the cabinet looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth slightly dampened with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since these will damage the cabinet. As a safety precaution, unplug the set before cleaning it.
- To remove dust from the front of the screen, unplug the set and wipe it gently with a soft cloth slightly dampened with water or a mild detergent solution, using vertical strokes only. Then wipe it again with a dry, soft cloth. Never use solvents or thinners for cleaning purposes.
- If the picture becomes darkened after the set has been in use for a long period of time, cleaning the inside of the projector may be required. Consult qualified service personnel for this.

Use of this color rear video projector for other than private performance of programs broadcast for the use of the general public may require authorization from the transmitter and/or owner of such programs. Use with cable television transmission may require authorization from the cable system transmitter and/or program owner.

FEATURES

- Remote control color rear video projector with a multifunction Remote Commander projects TV pictures on a self-contained 36-inch screen (measured diagonally).
- A unique "folded optics" system with one reflector less than other systems provides "compact and slim" projector design.



- New "Optical coupling and cooling" system remarkably improves the picture contrast.
- Two-way speakers provide powerful sound reproduction.
- Built-in stereo decoder decodes MTS (Multichannel TV sound) broadcasts into left and right stereo or SAP (Second Audio Program) channels.*
- Multi-band VHF/UHF/CATV tuner receives up to 125 cable channels for total of 181 possible off-air and cable channels.
- Built-in video and L/R audio line outputs provide the selected output from the TV tuner or any of the equipment connected to the audio-video line inputs.
- On-screen displays for easy reference to operating modes and adjustments.
- Dynamic Picture™ circuitry automatically adjusts the picture contrast to produce more detail in bright and dark areas of the scene.
- Dynamic Focus™ circuitry automatically focuses the scanning electron beam for enhanced sharpness over the entire picture, especially in corners.
- Colorpure Filter™ separately processes B/W picture information from color information to produce a dramatically sharper picture

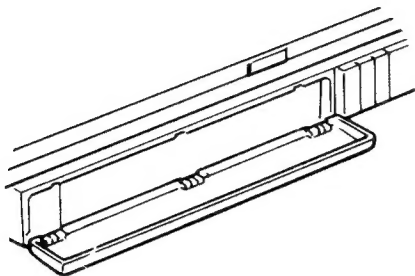
* Depends on availability of off-air stereo broadcasts

LOCATION OF CONTROLS

For details on the use of each control, refer to the pages indicated in ●.

See page 12 for the location of jacks and controls on the back.

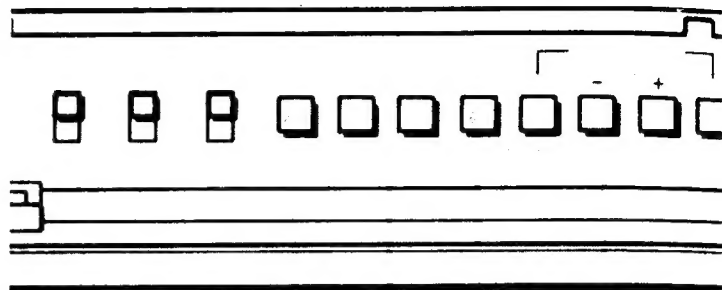
CONTROL PANEL



EXT AUDIO/VIDEO 3 button ⑮

CABLE ON/OFF button ⑮

AUTO STEREO button ⑧

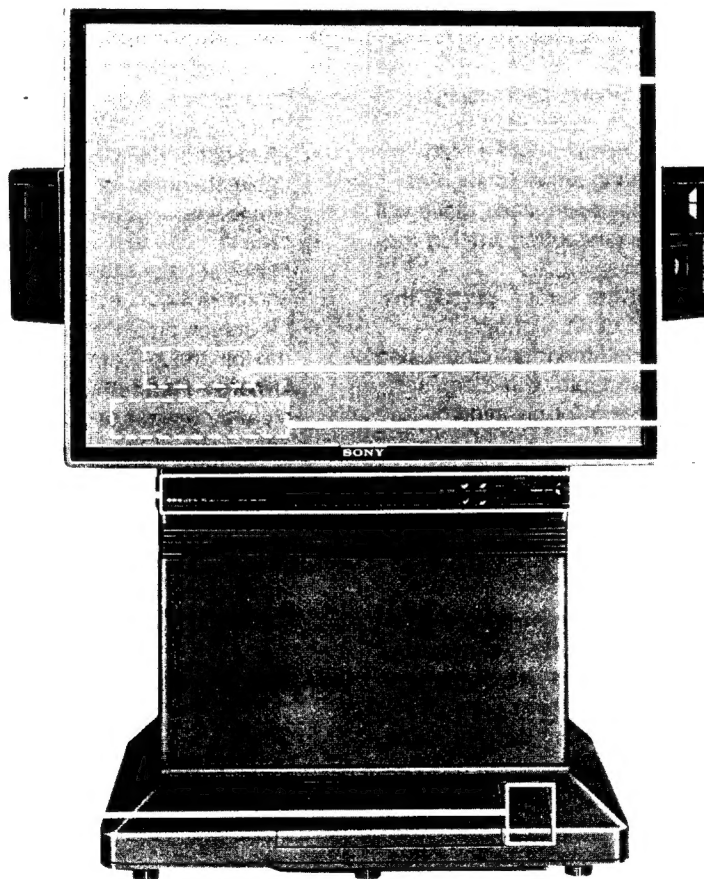


MTS button ⑧

For channel presetting ①

For picture and sound adjustment ⑨

ANT/AUX button ① ⑮



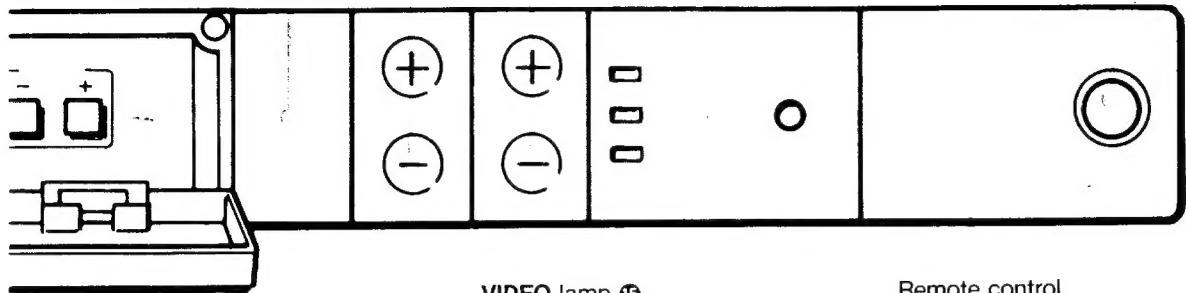
CHANNEL scan buttons ①

VOLUME buttons ②

TV/VIDEO button ③ ⑬

SLEEP lamp ④

POWER switch ⑤



VIDEO lamp ⑬

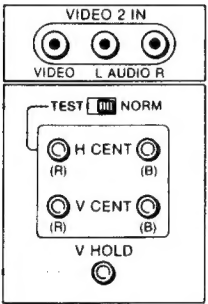
Remote control
detector ⑦

STEREO lamp ⑥

REGISTRATION PANEL

NORMAL/TEST
selector ⑩

V (vertical) HOLD
control ⑧



VIDEO 2
IN jacks ⑫

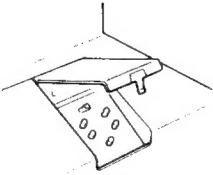
Centering
controls ⑩

ON-SCREEN DISPLAY FOR:

- Channel number
- MTS mode (MAIN, SAP or BOTH)
- Selected input sources (VIDEO 1, VIDEO 2, VIDEO 3 or EXT-A)
- AUX, MUTING or SLEEP indication

ITEM DISPLAY

Indicates the selected item to be adjusted by the ADJUSTMENT buttons and RESET indication.

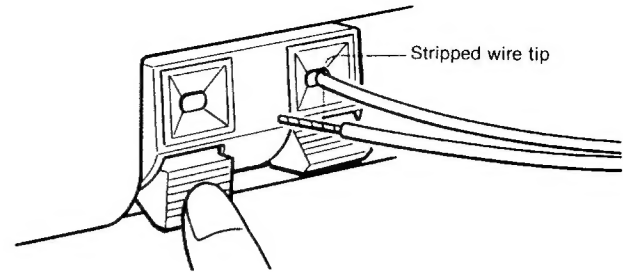
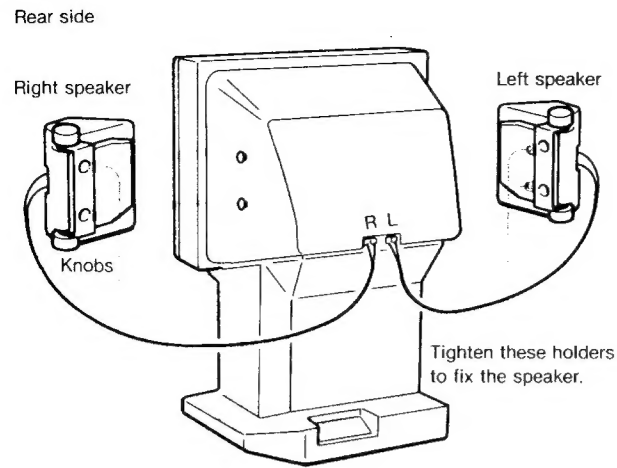


ADJUSTMENT DISPLAY

Indicates the picture and sound adjustment levels.

SPEAKER SET-UP

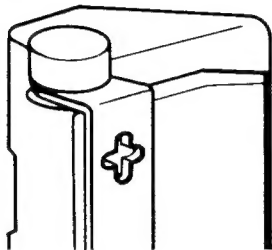
Mount the right and left speakers on the unit.



While pressing the button, insert the stripped wire tip into the hole and release the button. Slightly pull the wire to check that it is securely connected.

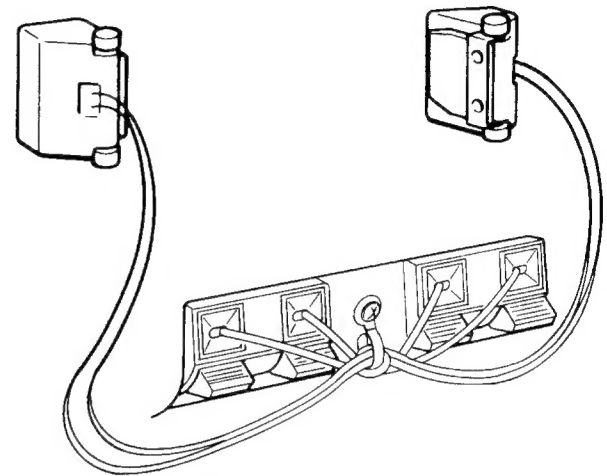
Securing the speaker cords

Hook the cords as illustrated so that slack of the cords cannot be seen from the front view.

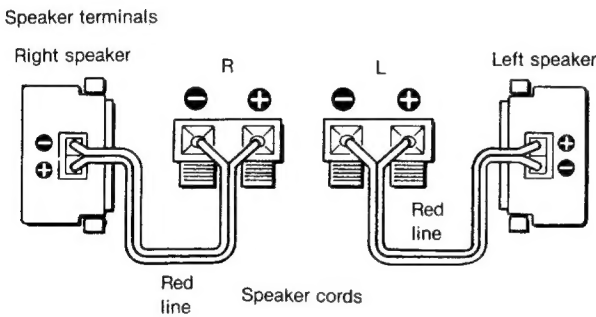


Angle adjustment

Turn the knobs on the top and bottom of the speaker counterclockwise, adjust the speaker position to the desired angle, and turn the knobs clockwise.



Connections



Notes

- Connect speaker cords with red lines to the + terminals.
- Putting the speakers on the unit for listening is not recommended.

OPERATION

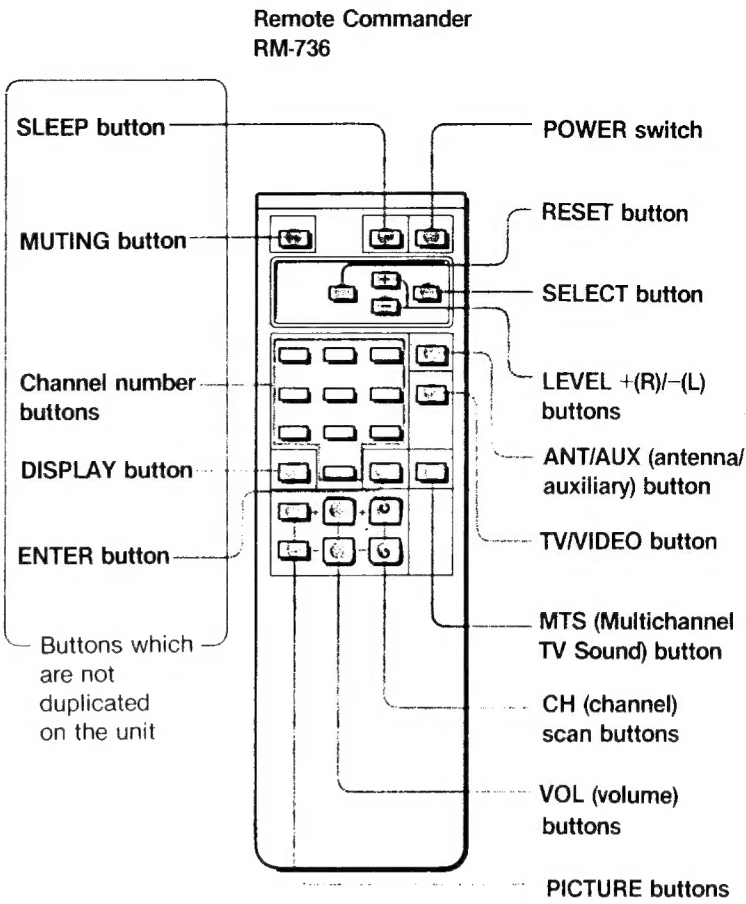
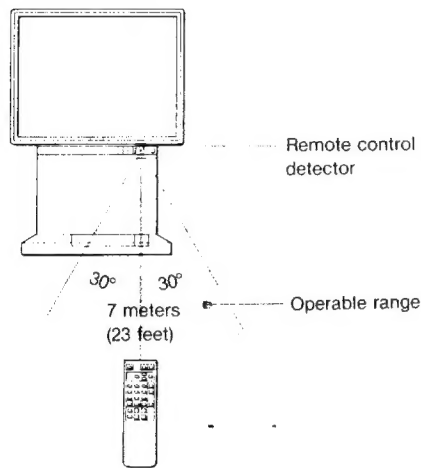
VIEWING TV PROGRAMS

This set is capable of receiving normal VHF and UHF broadcasts plus cable TV channels. (See "Cable TV channel chart" on this page.)

Usually the Remote Commander is all that is needed to operate the unit in everyday use.

Battery installation

- 1 Turn the Remote Commander face down, press the tab and lift the cover.
- 2 Place batteries in the Commander with the polarities in the correct directions as illustrated inside the case.
- 3 Replace the cover.



Notes

- Use 2 size AA batteries (IEC designation R6).
- In normal operation, batteries will last up to half a year. If the set does not operate properly, the batteries might be exhausted. Replace all with new ones.
- To avoid damage from possible battery leakage, remove the batteries for extended unused periods.
- Be sure that there are no obstructions between the Commander and the unit.
- Operable range is limited.

Cable TV channel chart *

Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to this chart.

Number on this set		1	5	6	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Corresponding CATV channel		A-8	A-7	A-6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
31	32	33	34	35	36	37	38	39	93		94	95	96	97	98	99	100	101	102	123 124 125	
R	S	T	U	V	W	W+1	W+2	W+3	W+57 W+58		A-5	A-4	A-3	A-2	A-1	W+59	W+60	W+61	W+82 W+83 W+84		

Check with your local cable TV company for more complete information on the available channels.

*The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

Preparation

Make sure the following are properly set.

- Press **POWER** to turn on the set.
- MONO/AUTO STEREO selector on the sub control panel (inside the drawer) should be set to AUTO STEREO position.
- If the "SAP" indication appears, press the MTS button twice so that the "MAIN" indication is displayed.

Depending on the channel to be viewed, check the following and change as necessary.

- CABLE ON/OFF button:
 - For VHF and UHF channels, set to OFF 冫.
 - For cable TV channels, set to ON 冫.
- On-screen "AUX"* indication:
(Press ANT/AUX button to change as necessary.)
 - For VHF, UHF and regular cable TV channels, the indicator should be off.
 - For cable TV channels, the indicator should be displayed.

* The displays, "VIDEO", "EXT-A" or "AUX" indicate that signals fed in through the VIDEO 1/3 IN jacks, VIDEO 2 IN AV uniconnector, the external audio jacks, or through the AUX terminals are being received.

Operation

1 Select channels in one of the following two ways.

- Press the numeral(s) of the channel and then press **ENTER**.
Ex. To select channel 125, press 1, 2, 5 and then **ENTER**.
- Press **CH "+"** for higher-numbered channels and **CH "-"** for lower-numbered channels. Preset channels will appear in sequence.

2 Adjust the volume and picture to your preference using **VOL** and **PICTURE**.



If the picture rolls vertically, turn V HOLD control of the registration panel on the front until the picture stabilizes.



V HOLD

For presetting desired channels, see page 11.

To keep the channel display on the screen, press **DISPLAY**.

To mute the sound immediately, press **MUTING**.
Press it again to restore the sound to its previously-set level.

To turn off the set, press **POWER** again.

To have the set turn off automatically after one hour, press **SLEEP**. The **SLEEP** lamp on the control panel will remain lit for one hour.

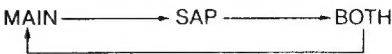
To cancel the sleep timer, press **SLEEP** again so that the **SLEEP** lamp goes out, or turn off the set.

LISTENING TO MULTICHANNEL TV SOUND (MTS) BROADCASTS

To receive a stereo program

Normally set the MONO/AUTO STEREO selector to AUTO STEREO. In this position, the STEREO lamp on the control panel will light up whenever a stereo broadcast is received. To listen to the stereo sound, select the MAIN mode with the MTS button so that the on-screen MAIN indication appears. The stereo sound will be heard from the left and right speakers.

Every push on the MTS button changes the indication as follows:



When there is a SAP (Second Audio Program) broadcast

Select the SAP mode so that the SAP indication will be displayed and only the SAP sound will be heard from both speakers.

To listen to both MAIN and SAP broadcasts

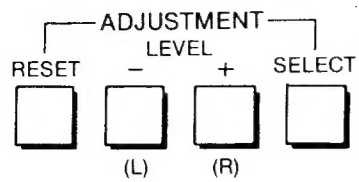
Select the BOTH mode so that the BOTH indication is displayed. The MAIN and SAP sounds will come out from the left and right speakers respectively. The MAIN sound becomes monaural(mixed) even if it is a stereo broadcast, as the sound comes only from the left speaker.

Notes

- The selected mode will be retained even after the power has once been turned off.
- There may be cases of stereo broadcasts where excessive "noise" will be heard due to a weak incoming signal. By switching the MONO/AUTO STEREO selector to MONO and returning to a monaural mode, the noise should be eliminated.
- When the SAP or BOTH mode is selected and there is no SAP broadcast, no sound is heard from the speaker (in SAP mode).
- The SAP broadcast will always be transmitted with the MAIN broadcast.

ADDITIONAL PICTURE AND SOUND ADJUSTMENT
(Hue: Color: Brightness: Sharpness: Treble: Bass: Balance)

The necessary controls are on the control panel.



1 Press SELECT consecutively until the on-screen display of the item you desire to adjust appears. The display will change as follows:

HUE→COLOR→BRIGHT→SHARP→TREBLE→
BASS→BALANCE→back to HUE

The display will disappear after a few seconds but will appear again when the next step is taken.

2 Press LEVEL -(L)/(R) to adjust the selected item.

	Selected item	-(L) Left button	+(R) Right button
PICTURE ADJUSTMENT	HUE	Skin tones become purplish	Skin tones become greenish
	COLOR	For less color intensity	For more color intensity
	BRIGHT	For less brightness	For more brightness
	SHARP	For less sharpness	For more sharpness
SOUND ADJUSTMENT	TREBLE	To decrease treble response	To increase treble response
	BASS	To decrease bass response	To increase bass response
	BALANCE	To emphasize the left speaker's volume	To emphasize the right speaker's volume

On-screen color-bar displays

When any of the above adjustments are made, a colored segmented bar appears on the screen to indicate the appropriate setting level.

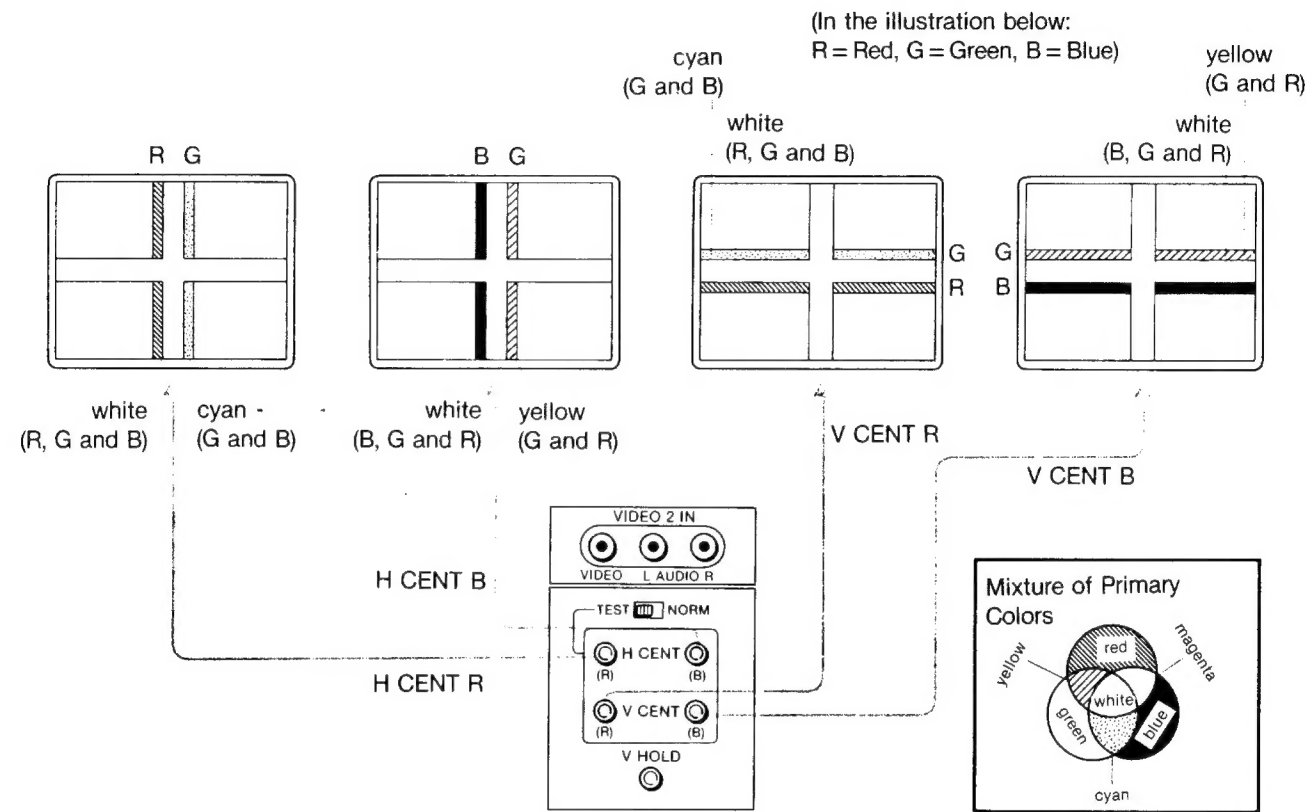
The adjustments made can be cleared and the factory preset levels will be restored at once when the **RESET button** is pressed. (A "RESET" indicator will appear for a few seconds.)

REGISTRATION ADJUSTMENT

When the red, green and blue lines are not superimposed (the cross is not seen as white), perform the registration adjustment yourself. Should the difficulty persist, contact your Sony dealer.

Follow steps 1 through 6.

- 1 Press POWER to turn on the unit.
- 2 Open the registration panel and set the NORM/TEST selector to TEST. A built-in test pattern will be displayed on the screen.
- 3 Adjust the H CENT(B) and H CENT(R) controls to converge the blue and red vertical lines with the green line.
- 4 Adjust the V CENT(B) and V CENT(R) controls to converge the blue and red horizontal lines with the green line.



As you turn the controls clockwise, the lines move in the direction indicated in the illustrations. To move the lines in the opposite direction, turn the controls counterclockwise.

- 5 Repeat steps 3 and 4 until the cross appears white.
- 6 After the adjustment is completed, set the NORM/TEST selector to NORM.

PRESETTING CHANNELS

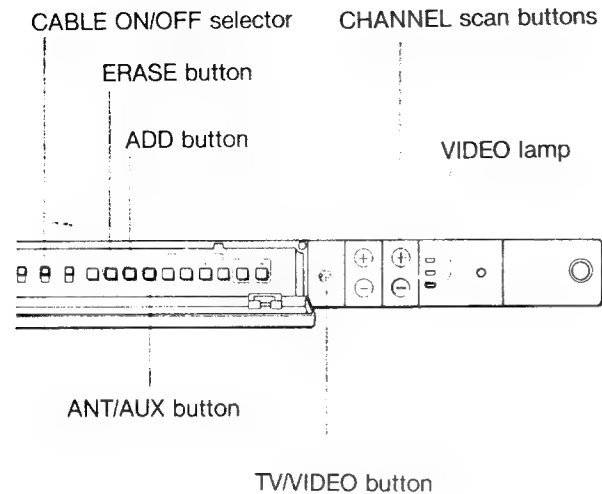
Receivable channels of your set are:

VHF: 2-13

UHF: 14-69

CATV: 1-125

By adding and erasing channels, you can preset your set so that only the desired channels appear in sequence when the CHANNEL +/- are pressed.



Preparation

- 1 Turn on the set.
- 2 Make sure the following are properly set.
The on-screen display (VIDEO 1/2/3 or EXT-A) and VIDEO lamp should be off. (Press TV/VIDEO button as many time as necessary until they go out.)
- 3 According to the channel to be added or erased, check the following and make the necessary changes if any.
 - CABLE ON/OFF selector:
For VHF and UHF channels, set to OFF.
For cable TV channels, set to ON.
 - On-screen "AUX" indication
(Press ANT/AUX button as necessary.)
For VHF, UHF and regular cable TV channels, the indication should be off.
For cable TV channels, the indication should be displayed.

ADDING CHANNELS

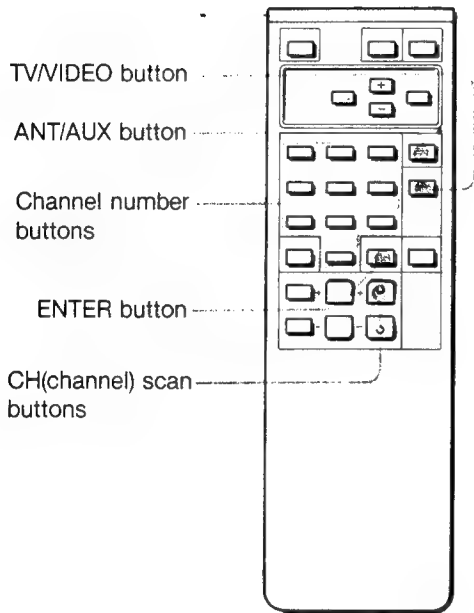
- 1 Select the channel to be added by pressing the channel number buttons and then ENTER.
- 2 Press ADD.
A "+" indication will appear on the left of the channel display on the screen.
Repeat steps 1 and 2 for other channels to be added.

ERASING CHANNELS

- 1 Select the channel to be erased.
- 2 Press ERASE.
A "-" indication will appear on the left of the channel display on the screen.
Repeat steps 1 and 2 for other channels to be skipped over in the numeral sequence.
To add erased channels again, follow the steps in "ADDING CHANNELS".

Note

If you erase a VHF or UHF channel , the cable TV channel with the same number will also be erased, and vice versa.

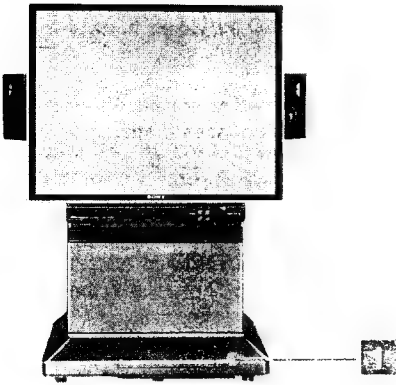


APPLICATIONS WITH OTHER OPTIONAL EQUIPMENT

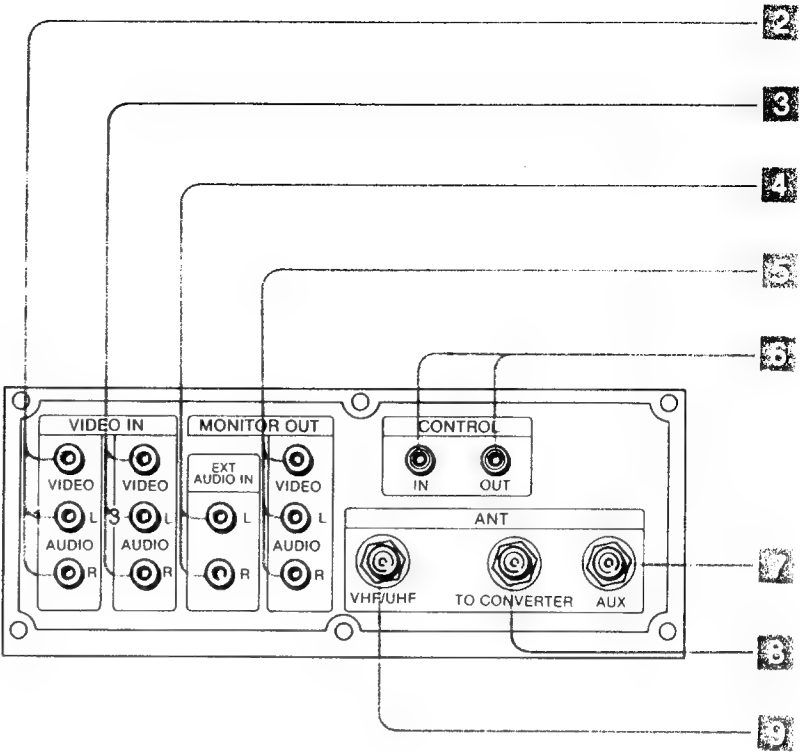
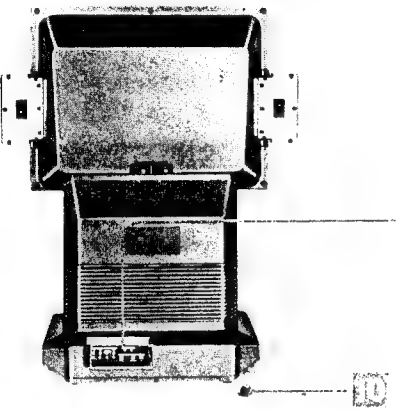
This unit is equipped with various input/output jacks and terminals for your desired equipment to be connected.

For details on the various optional connecting cables to be used, see "OPTIONAL AUDIO/VIDEO CONNECTING CABLES" on next page.

Front



Rear



1 VIDEO 2 IN (input) jacks
Connect to the video and audio output jacks of a video cassette recorder or microcomputer.

2 VIDEO 1 IN jacks

3 VIDEO 3 IN jacks
Connect to the video and audio output jacks of a VCR*, video disc player, etc.

- | | | |
|-------------------------------|---|--|
| ⊙ VIDEO jack (phono, yellow) | → | to video output jack |
| ⊙ AUDIO L jack (phono, white) | → | to audio L (left channel) output jack |
| ⊙ AUDIO R jack (phono, red) | → | to audio R (right channel) output jack |

*You will achieve better picture and sound quality than by connecting the VCR only to the antenna terminal.

4 EXT AUDIO IN (L/R) jacks
An external audio source can be connected to these jacks to be combined with the picture of the selected TV program. Connect to the audio/line output of the audio source.

To view FM simulcasted programs, see page 16.

5 MONITOR OUTPUT jacks (phono type)
Connect to the video and audio input jacks of a video cassette recorder or color monitor. Either the TV or VCR signal selected by the TV/VIDEO button is supplied. To record only the sound, connect the audio input jacks of a tape recorder to the AUDIO L and R jacks with a connecting cable such as the optional RK-74A.

6 CONTROL IN/OUT jacks (mini type)
These jacks are for connecting a future audio or video product also equipped with similar CONTROL IN or OUT jacks for the expansion of your audio-video system.

7 AUX (auxiliary) terminal See "ANTENNA/CABLE CONNECTION" on page 17.
8 TO CONVERTER terminal
9 VHF/UHF ANT terminal

10 AC power cord

CONNECTIONS

OPTIONAL AUDIO/VIDEO CONNECTING CABLES

The optional connecting cables to be used for connecting other equipment depend upon what type of audio and video jacks the equipment you desire to connect has.

Cables to be connected to the VIDEO 1, 2 and 3 IN jacks

The type of audio and video jacks of the equipment to be connected.		Connecting cable to be used
Video (phono-type) ⓪	Audio (L, R) (phono-type) ⓪ ⓪	VMC-2P3
Video (phono-type) ⓪	Audio (mini-type) ⓪	VMC-2MP3
Video (phono-type) ⓪	Audio (phono-type) ⓪	VMC-609MS

The following are few examples of the possible connections.

Notes on connection

- Before connecting, make sure that the power to each piece of equipment is turned off.
- The plugs should be fully inserted into the jacks. A loose connection may cause hum and noise.
- Match the color when connecting the plugs to the jacks.

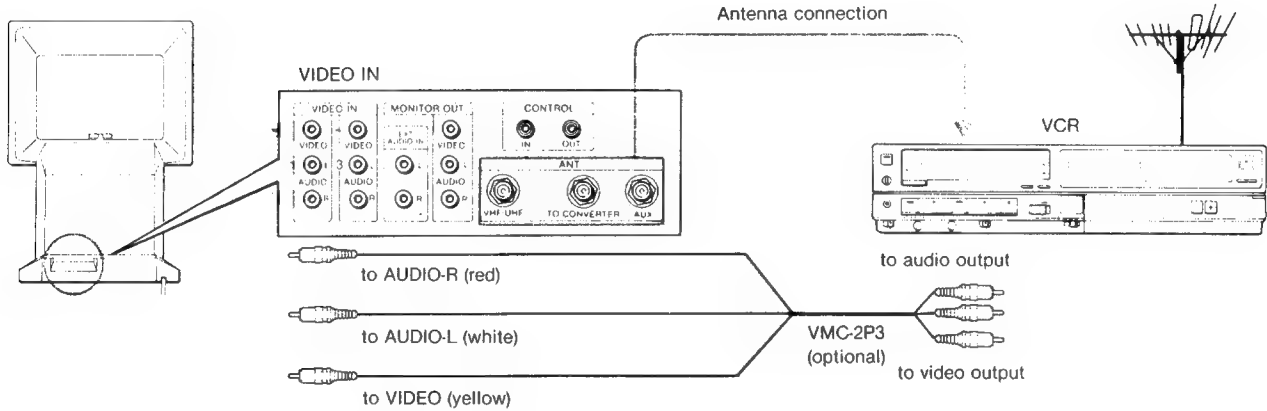
VCR CONNECTION

Keep the VCR away from the TV, if the display or sound is affected.

Connecting VCRs that are capable of receiving TV broadcasts

Caution

Television programs, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws.



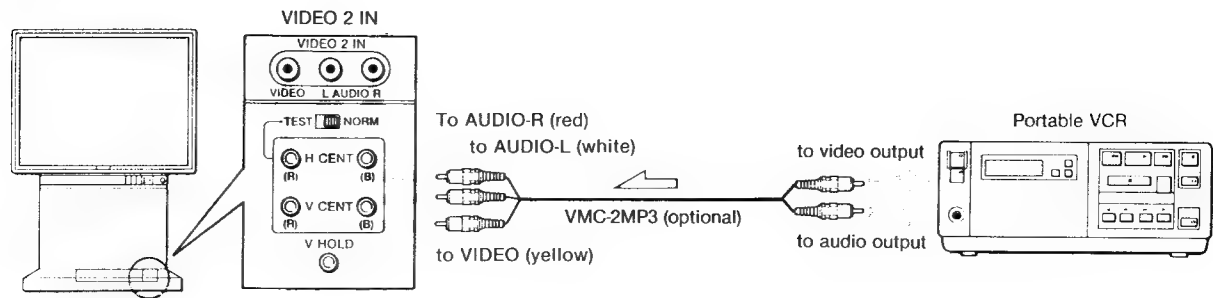
If you desire to connect another VCR, make the similar connection to the VIDEO 3 IN jacks and set EXT AUDIO/VIDEO 3 selector to "VIDEO 3".

With this connection, you will be able to...

- View the playback of tapes
- Record TV programs
- Record a TV program while viewing another

Connecting portable VCRs (that are not equipped with/connected to a TV tuner)

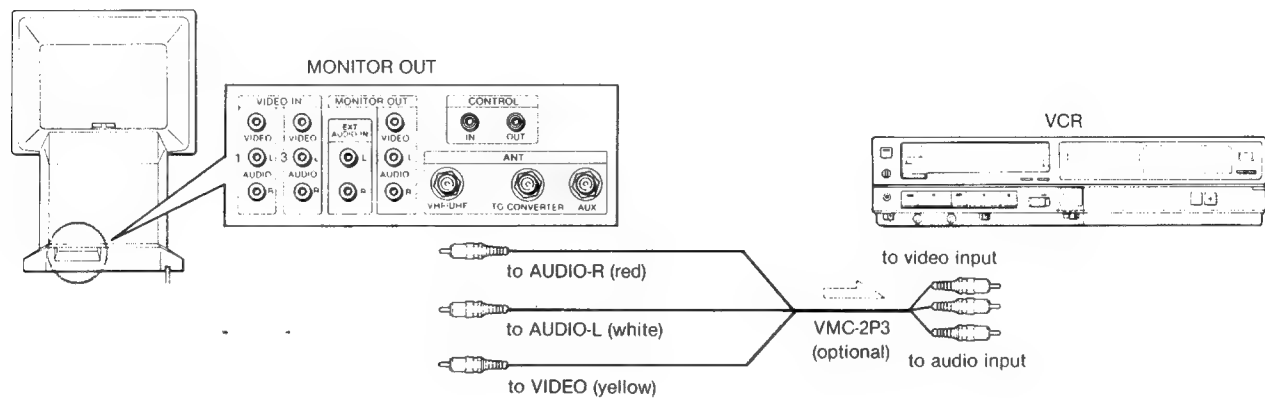
For playing back recorded tapes



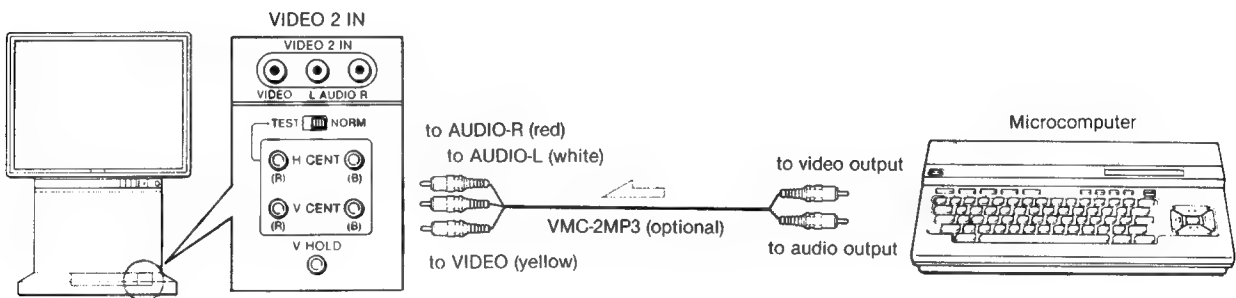
Editing tapes by connecting a VCR to the MONITOR OUT jacks

If a VCR is connected to the MONITOR OUT jacks besides another VCR, video disc player, etc., connected to the VIDEO (1/2/3) jacks, you will be able to edit your own tapes

by recording the selected video source (including the TV programs) displayed on the screen. For selecting the desired video source, see next page.



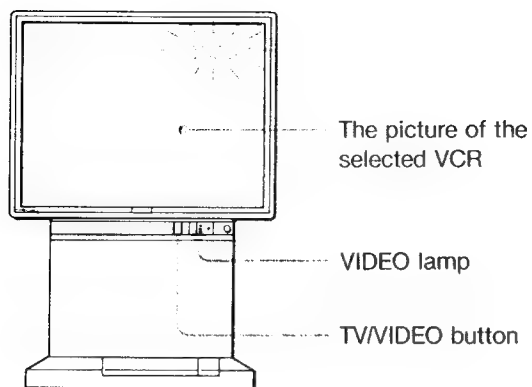
MICROCOMPUTER CONNECTION



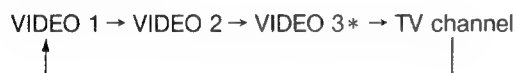
SELECTING THE VARIOUS AUDIO AND VIDEO SOURCES

VIEWING THE PICTURE OF THE EQUIPMENT CONNECTED TO THE VIDEO (1/2/3) IN

Press the TV/VIDEO button until the “VIDEO 1, 2 or 3”
indication of the VIDEO input jacks from which you desire
the signals to come from appears.
The VIDEO lamp will light up.



Every time you press the TV/VIDEO button, the display will
change as follows



Adjust the volume with the VOLUME buttons.

*Set EXT AUDIO/VIDEO 3 selector on the sub control panel to "VIDEO
3" if "EXT-A" appears.

The channel number buttons on the Remote Commander
or the channel scan buttons will not function while the
VIDEO lamp is lit.

TO LISTEN TO THE SOUND OF THE AUDIO SOURCE CONNECTED TO THE EXTERNAL AUDIO JACKS

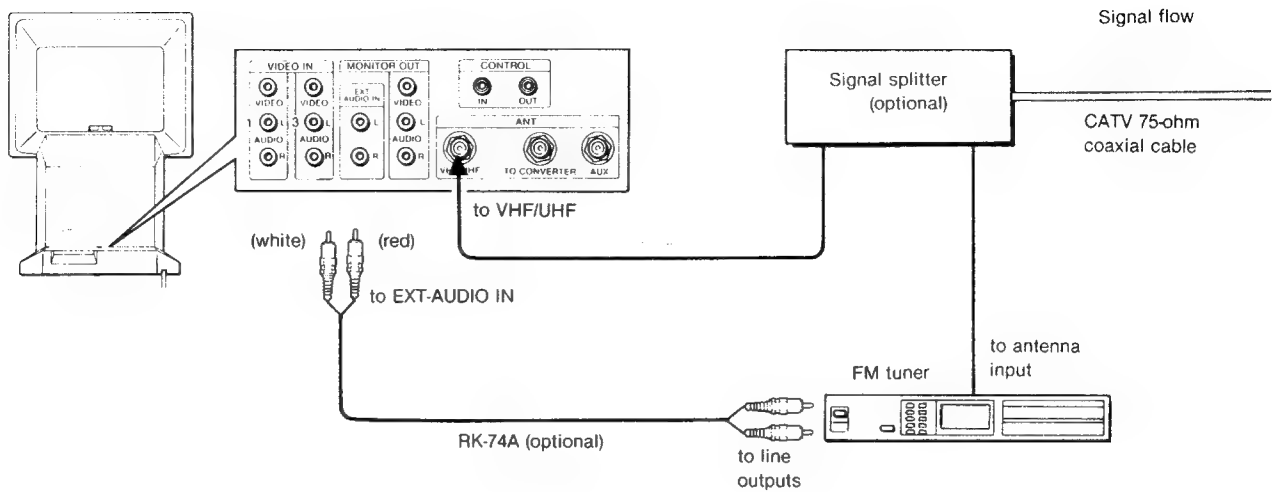
- 1** Set EXT AUDIO/VIDEO 3 selector to "EXT AUDIO".
- 2** Press TV/VIDEO button as many times as necessary
until the on-screen "EXT-A" appears.

ENJOYING FM SIMULCASTED PROGRAMMING

Over-the-cable FM simulcasts


Cable TV companies have started “simulcasting” some channels like MTV (Music Television) and selected movies in stereo over the cable. In the case of cable stereo programs, however, the audio signal is not sent over the air but sent on FM frequencies over the cable.

By splitting the incoming cable signal and running it to both the TV tuner and an FM tuner/receiver, these cable programs can be enjoyed in stereo over the four speakers of the set as shown below.



Preparation

Make sure the following are properly set.

- Set EXT AUDIO/VIDEO 3 to “EXT AUDIO”.
- Press TV/VIDEO button as many times as necessary so that the on-screen “EXT A” indication is displayed.
- The CABLE ON/OFF button should be ON , and depending on the channel to be viewed, the on-screen “AUX” indication should be as follows:
(Press ANT/AUX button to change as necessary.)
 - For regular cable TV channels:
The indication should be off.
 - For pay cable TV channels:
The indication should be displayed.

Operation

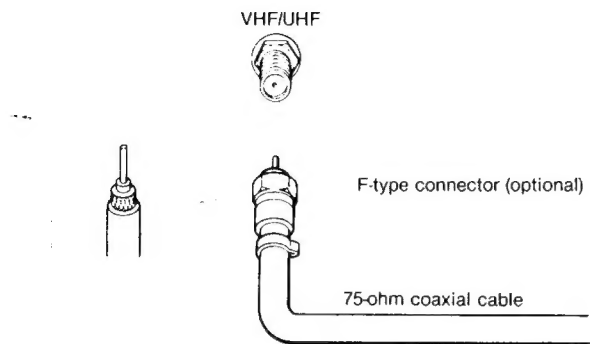
- 1 Set the FM tuner to the frequency designated by the broadcaster.
- 2 Operate the set the same as in usual TV viewing.

ANTENNA/CABLE CONNECTION

Using an outdoor antenna may be necessary. Cable TV reception is only possible by connecting a cable supplied by your local cable operator.

Prepare the antenna or cable end using the appropriate connector, and connect the antenna or cable to the antenna terminal of the set. (See A, B, C or D below.)

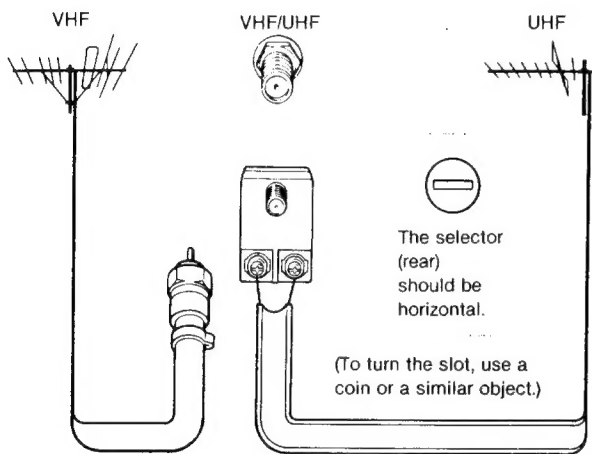
A Combination VHF/UHF antenna,* VHF antenna or CATV cable



*Most combination antennas are equipped with a signal splitter. Take off the splitter and attach the proper connector.

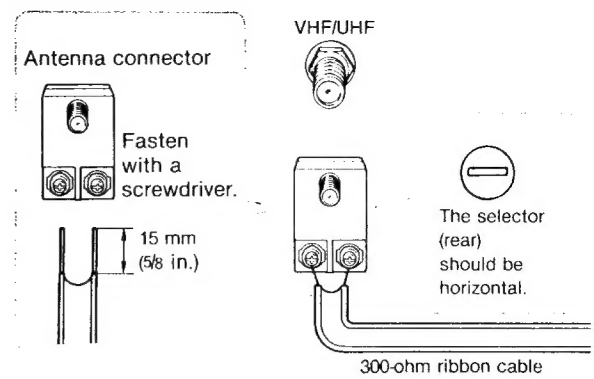
B When both VHF and UHF antennas are connected

Prepare the VHF antenna end using the appropriate connector as illustrated in A. Attach the supplied antenna connector to the TV antenna terminal, and connect the cables to the connector. (For UHF, see C.)



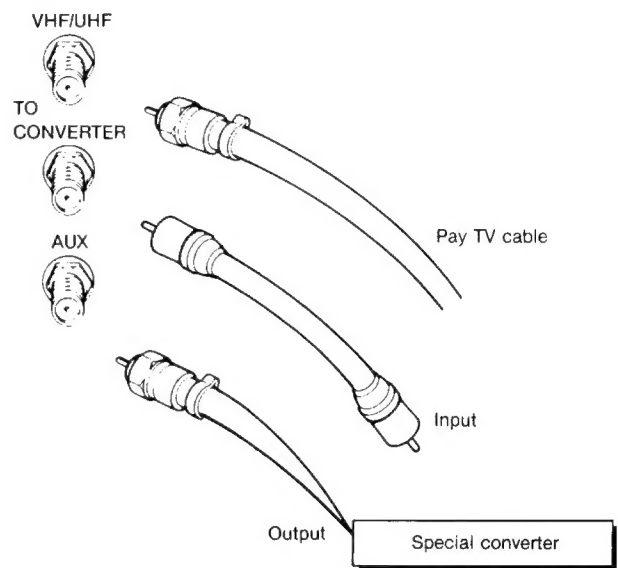
When the cable is connected to the TV in this way, snow and noise may appear in the pictures of the cable TV channels over 37 (W+1).

C UHF antenna only



D Cable with a special converter (decoder)

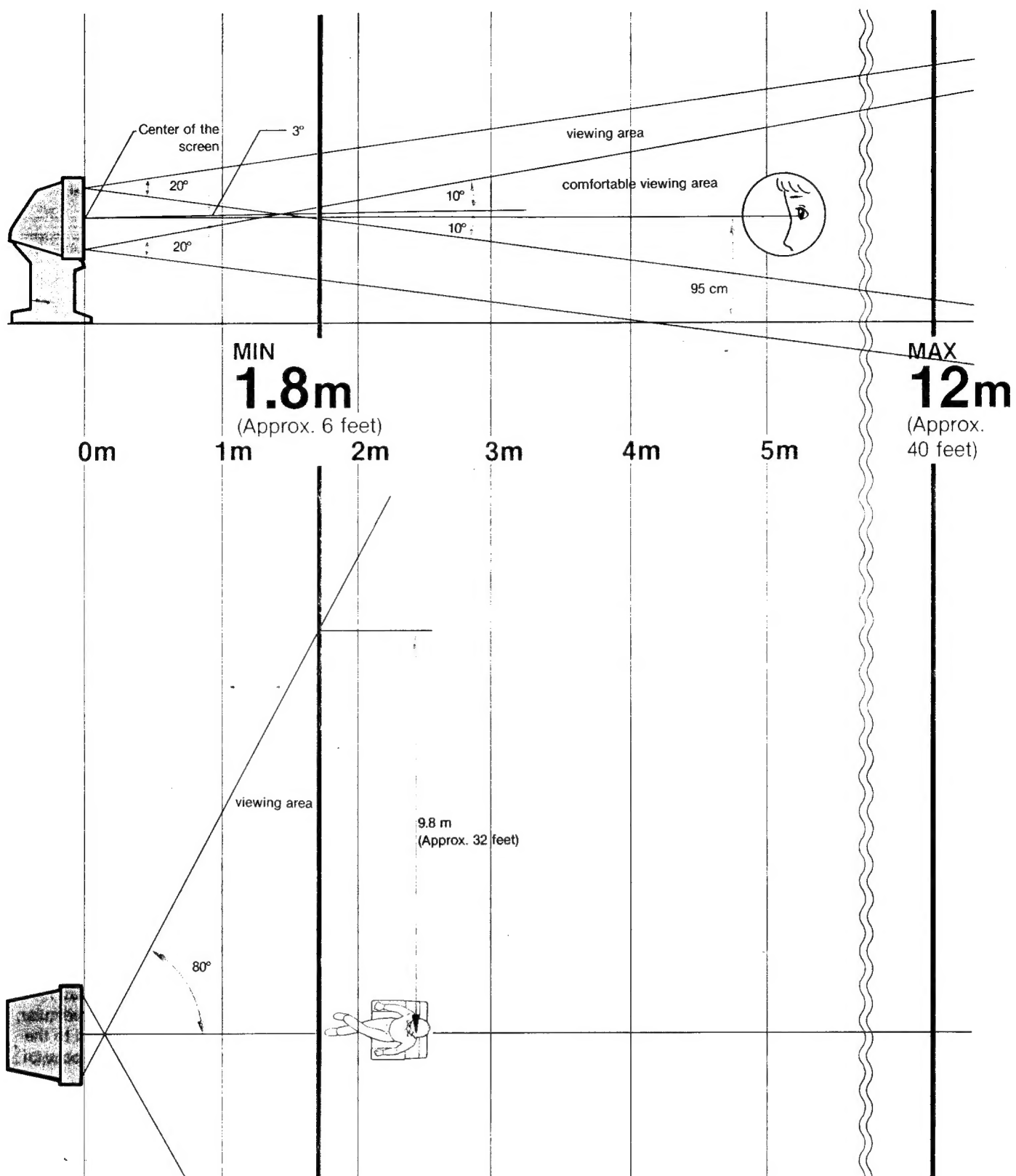
Pay cable TV systems use scrambled or encoded signals and require special converters (decoders)* in addition to the normal cable connection. Connect the converter (decoder) with a 75-ohm coaxial cable (optional).



* The special converter (decoder) will be supplied by the cable company.

Note to CATV system installer in the USA:
This reminder is provided to call the CATV system installer's attention to Article 820-22 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

NOTICE ON AUDIENCE AREA



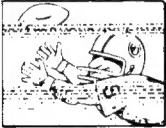

SPECIFICATIONS

Structure	Screen and projector, rear projection type	Accessories supplied
Projection system	3-picture tubes, 3 lenses, horizontal in-line system	Remote Commander RM-736 (1) with 2 size AA batteries
Picture tube	4 inch high-brightness monochrome tubes, with optical coupling and cooling system	Speaker APM-X4 (2)
Projection lenses	High-performance, large-diameter glass lens F 1.0	Antenna connector (1)
Screen material	Acrylic plastic, Fresnel lenticular type	Optional accessories
Projected picture size (measured diagonally)	36 inches	Connecting cables (See page 13)
Viewing distance	1.8m (approx. 6 ft) minimum to 12m (approx. 40 ft) maximum	Design and specifications are subject to change without notice.
Optimum seating arrangement	Within approx. 80 degrees from center	
Screen brightness	Typical 300 foot-Lamberts	
Television system	American TV standards	
Channel coverage	VHF: 2-13 UHF: 14-69 CATV: 1-125	
Antenna	75-ohm external antenna terminal for VHF/UHF/CATV	
Inputs	VIDEO 1,2,3 IN (phono jacks) Video: 1Vp-p, 75 ohms unbalanced, sync negative Audio: 408mVrms (100% modulation, 47 kilohms) CONTROL IN (mini jack) 5Vp-p 75-ohm external antenna terminal for VHF/UHF/CATV AUX 75-ohm auxiliary antenna terminal	
Outputs	MONITOR OUT (phono jack) Video: 1Vp-p, 75 ohms unbalanced, sync negative Audio: 408mVrms (100% modulation, 1 kilohm) CONTROL OUT (mini jack) 5Vp-p TO CONVERTER terminal	
Speaker	Two-way speaker system Woofer: 55cm ² APM speaker Tweeter: 2cm (dia.) cone speaker Weight: 1.47 kg (3 lb 4 oz)	
Power requirements	120V AC, 60Hz	
Power consumption	185W (max.), 135W (average) 4W (in standby condition)	

	Dimensions (w/h/d)	Weight
Unit itself	800 × 1129 × 625 mm (31½ × 44½ × 24¾ inches)	36.9 kg (81 lb. 6 oz.)
With folded speakers	973 × 1129 × 625 mm (38¾ × 44½ × 24¾ inches)	39.8 kg (87 lb. 14 oz.)

TROUBLESHOOTING

Disturbances in picture and sound can often be eliminated by checking the symptoms and following the suggestions listed below.

SYMPTOM		CHECK AND ADJUST
GENERAL	Poor or no picture (screen not lit), good sound	<ul style="list-style-type: none"> Adjust PICTURE. Adjust BRIGHT with the ADJUSTMENT buttons. Check antenna/cable connections.
	Good picture, no sound	<ul style="list-style-type: none"> Press VOLUME +. Release MUTING on the Remote Commander. Check that the MTS button is set correctly. Are the speakers connected firmly? Is the EXT-AUDIO/VIDEO 3 selector set correctly?
	No picture (screen not lit), no sound	<ul style="list-style-type: none"> Is POWER switched on? Power in outlet? Check that the TV/VIDEO button is set correctly.
	No color	<ul style="list-style-type: none"> Is it a color program? Is the color adjustment correctly made with the SELECT and -(L) or +(R) buttons?
	Snow and noise only	<ul style="list-style-type: none"> Is it an active or the correct channel? Check the CABLE ON/OFF selector setting. Check that the ANT/AUX button is set correctly. Check antenna connections.
	 <div>Dotted lines or stripes</div>	This is often caused by local interference. (ex. cars, neon signs, hair-dryers etc.) Adjust antenna for minimum interference.
	 <div>Double images or ghosts</div>	Reflections from nearby mountains or buildings often cause this problem. A highly directional outdoor antenna or CATV cable may improve the picture.
Try another channel. It could be station trouble.		

SYMPTOM		CHECK AND ADJUST
CONNECTED EQUIPMENT	No picture and/or sound for the connected equipment	<ul style="list-style-type: none"> Check that the TV/VIDEO button is set correctly. Are the connections made firmly? Check that the EXT-AUDIO/VIDEO 3 selector is set correctly. Is the power of the connected equipment turned on? Is the connected equipment set correctly?

If the problem still cannot be solved, contact your nearest service facility.